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EXAMINER	
MAIS, MARK A	
ART UNIT	**PAPER NUMBER**
2664	

DATE MAILED: 08/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/782,973	KELLY ET AL.	
	Examiner	Art Unit	
	Mark A. Mais	2664	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-32 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-32 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 06 May 2005.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. Claims 1, 4, 5, 8, 12, 13, 16, 17, 20, 21, and 24 are rejected under 35 U.S.C. 102(e) as being anticipated by Bradshaw et al. (USP 6,674,731).

3. With regard to claims 1, 9, and 17, Bradshaw et al. discloses the transmission of TCP/IP data over a satellite link from a hub station to a plurality of remote terminal units **[Abstract]**. Bradshaw et al. further teaches user terminals **[col. 4, lines 58-61]** (hosts) connected to remote units **[col. 4, lines 65-67]** (terminal unit). The remote unit contains a receiver **[col. 4, lines 14-15]**

and a transmitter **[Fig. 8]** for two-way communication. Bradshaw et al. also teaches the hub use of DVB format data frames **[col. 3, lines 47-49]**. It is inherent that the receiver must contain MAC to DVB converter **[col. 12, lines 38-40]** to conform to DVB protocol format that is supported by the hub **[col. 3, line 49]**. Bradshaw et al. also teaches an RF receiver coupled to an antenna to permit exchange of data between the remote terminal and the satellite **[Fig. 10]**. It is inherent that a burst demodulator must be present in the RF receiver for demodulating the signal over the satellite link due to the nature of satellite communications. The data frame conforms with the DVB protocol format (i.e., the return channel frame format **[col. 3, line 49]**. The satellite-to-hub interface is inherent in the Bradshaw et al. specification. Moreover, the hub station **[Fig. 2, 104]** is shown with the antenna and the RF transmitter/receiver (inherent). Thus, these elements are interpreted as the satellite-to-hub interface. Bradshaw et al. further teaches that the hub is connected to an external packet switched network **[Fig. 2, element 24; col. 4, lines 25-29]**. Which, in this case, is the internet. It is inherent that the hub must be able to convert the protocol data frame receive over satellite to requests from content servers **[col. 5, lines 13-17]**. Bradshaw et al. teaches a multi-layer protocol interface for the hub-to-terminal as the TCP/IP data is encapsulated into a MAC data frame **[col. 7, lines 62-63]** and because the TCP/IP frames are also formatted within the DVB frame **[col. 8, lines 47-51]**.

4. With regard to claims 4, 12, and 20, Bradshaw et al. discloses all teaches that MPEG format data is packaged into DVB protocol format **[col. 2, lines 66-67]**, and TCP/IP data is encapsulated into an Ethernet MAC data frame **[col. 7, lines 62-63]**, that is, multi-layer protocol with support for DVB.

5. With regard to claim 5, Bradshaw et al. discloses that the data exchanged over the satellite link is TCP/IP **[col. 3, lines 37-39]**.

6. With regard to claims 8, 16, and 24, Bradshaw et al. discloses that the packet-switched network is the internet **[Fig. 2, element 24]**.

7. With regard to claims 13 and 21, Bradshaw et al. discloses IP **[col. 7, lines 62-63]**, an IETF-standardized protocol used for interfacing receiver and transmitter units, as well as for transmitting data.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9. Claims 2, 3, 10, 11, 18, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bradshaw et al. as applied to claims 1, 4, 5, 8, 12, 13, 16, 17, 20, 21, and 24 above, and further in view of Gernert et al. (USP 6,600,734).

10. With regard to claims 2, 10, and 18, Bradshaw et al. fails to specifically disclose the transmission of data bursts from the terminal to the host **[although, as noted above, it is inherent in satellite communications to have a burst channel demodulator]**. Gernert et al. discloses several bus standards for connecting the host **[col. 10, lines 47-48]**. The buses specifically support (common) bursty video traffic. Gernert et al. discloses wireless LAN communications **[Abstract]**. Bradshaw et al. discloses both hardwired and wireless terminals connected to hosts via LAN 116. The can be a standardized bus such as the IEEE 802.6 DQDB for conveying bursty video, which also has the advantage of improved performance characteristics. Moreover, both Bradshaw et al. and Gernert et al. involve integrated services. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to have used the two-way satellite communications of Bradshaw et al. with the LAN bus capable of handling bursty traffic because integrated services require interoperability between receipt and use of regular and bursty transmissions that contribute to improved performance characteristics.

11. With regard to clams 3, 11, and 19, Bradshaw et al. dos not specifically disclose a USB serial bus. However, Gernert et al. discloses that one of its serial buses is a USB bus **[col. 10, lines 47-48]**. Both Bradshaw et al. and Gernert et al. involve integrated services. It would have been obvious to one of ordinary skill in the art at the time of the invention to have used the two-way satellite communications of Bradshaw et al. with the USB bus because integrated services require interoperability between transmissions which contribute to improved performance characteristics as well as universal compatibility.

12. Claims 6, 14, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bradshaw et al. as applied to claims 1, 9, and 17 above, and further in view of Birdwell et al. (US Patent Publication 2001/0024435).

13. With regard to claims 6, 14, and 22, Bradshaw et al. does not specifically disclose little and big endian data formats. However, Birdwell et al. discloses endian formats for IP packets transmitted over a satellite link **[paragraph 0058]**. Bradshaw et al. requires the determination of the beginning, the end, the LSB, and/or the MSB of the transmitted data frames in order to process the data frames. Endian formats aid in determining whether the first byte in the transmitted frames is the LSB or MSB. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to have used the teachings of Bradshaw et al. in processing of transmitted data frames to have used the endian formats to aid in determining the LSB and MSB so that data alignment can be achieved at the receiver for either synchronization or CRC calculations.

14. Claims 7, 15, and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bradshaw et al. as applied to claims 1, 9, and 17 above, and further in view of Jorgenson et al. (USP 6,680,922).

15. With regard to claims 7, 15, and 23, Bradshaw et al. does not specifically disclose IGD packets. However, Jorgenson disclosed UDP for transmission of packets over a wireless link **[col. 12, lines 46-48]**. IGD packets are formed from UDP packets. Therefore, it is inherent that

UDP datagrams can convey useful information parameters about the wireless link including the return channel ID and loading information.

16. Claims 25, 28, 29, and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bradshaw et al. as applied to claims 1, 9, and 17 above, and further in view of Dillon et al. (USP 6,338,131).

17. With regard to claims 25 and 28, Bradshaw et al. discloses the transmission of TCP/IP data over a satellite link from a hub station to a plurality of remote terminal units **[Abstract]**. Bradshaw et al. further teaches user terminals **[col. 4, lines 58-61]** (hosts) connected to remote units **[col. 4, lines 65-67]** (terminal unit). The remote unit contains a receiver **[col. 4, lines 14-15]** and a transmitter **[Fig. 8]** for two-way communication. Bradshaw et al. also teaches the hub use of DVB format data frames **[col. 3, lines 47-49]**. It is inherent that the receiver must contain MAC to DVB converter **[col. 12, lines 38-40]** to conform to DVB protocol format that is supported by the hub **[col. 3, line 49]**. Bradshaw et al. also teaches an RF receiver coupled to an antenna to permit exchange of data between the remote terminal and the satellite **[Fig. 10]**. It is inherent that a burst demodulator must be present in the RF receiver for demodulating the signal over the satellite link due to the nature of satellite communications. The data frame conforms with the DVB protocol format (i.e., the return channel frame format **[col. 3, line 49]**. The satellite-to-hub interface is inherent in the Bradshaw et al. specification. Moreover, the hub station **[Fig. 2, 104]** is shown with the antenna and the RF transmitter/receiver (inherent). Thus, these elements are interpreted as the satellite-to-hub interface. Bradshaw et al. further teaches

that the hub is connected to an external packet switched network **[Fig. 2, element 24; col. 4, lines 25-29]**. Which, in this case, is the internet. It is inherent that the hub must be able to convert the protocol data frame receive over satellite to requests from content servers **[col. 5, lines 13-17]**. Bradshaw et al. teaches a multi-layer protocol interface for the hub-to-terminal as the TCP/IP data is encapsulated into a MAC data frame **[col. 7, lines 62-63]** and because the TCP/IP frames are also formatted within the DVB frame **[col. 8, lines 47-51]**.

Bradshaw et al. does not specifically disclose processors executing instructions to configure one or more of the interfaces. However, Dillon et al. discloses a satellite-based internet access system. The system of Dillon et al. contains several elements, including an application server and interface, hybrid gateway, and satellite gateway. A processor, executing instructions stored in memory may configure the gateway and the interfaces **[col. 3, lines 59-62]**. It is inherent that the same processor operating under instructions stored in memory, can also configure other/multiple interfaces. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the two-way satellite communications system of Bradshaw et al. to include the stored instructions executing in the processors of Dillon et al. because integrated services require interoperability between transmissions which contribute to improved performance characteristics as well as universal compatibility as well as flexibility.

18. With regard to claim 29, Bradshaw et al. discloses IP **[col. 7, lines 62-63]**, an IETF-standardized protocol used for interfacing receiver and transmitter units, as well as for transmitting data.

19. With regard to claim 32, Bradshaw et al. discloses that the packet-switched network is the internet **[Fig. 2, element 24]**.

20. Claims 26 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bradshaw et al. and Dillon et al. as applied to claims 25, 28, 29, and 32 above, and further in view of Gernert et al.

21. With regard to claim 26, Bradshaw et al. fails to specifically disclose the transmission of data bursts from the terminal to the host wherein the data bursts conform to a bus standard of the host **[although, as noted above, it is inherent in satellite communications to have a burst channel demodulator]**. Gernert et al. discloses several bus standards for connecting the host **[col. 10, lines 47-48]**. The buses specifically support (common knowledge) bursty video traffic. Gernert et al. discloses wireless LAN communications **[Abstract]**. Bradshaw et al. discloses both hardwired and wireless terminals connected to hosts via LAN 116. The can be a standardized bus such as the IEEE 802.6 DQDB for conveying bursty video, which also has the advantage of improved performance characteristics. Moreover, both Bradshaw et al. and Gernert et al. involve integrated services. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to have used the two-way satellite communications of Bradshaw et al. with the LAN bus capable of handling bursty traffic because integrated services require interoperability between receipt and use of regular and bursty transmissions that contribute to improved performance characteristics.

22. With regard to clam 27, Bradshaw et al. dos not specifically disclose a USB serial bus. However, Gernert et al. discloses that one of its serial buses is a USB bus **[col. 10, lines 47-48]**. Both Bradshaw et al. and Gernert et al. involve integrated services. It would have been obvious to one of ordinary skill in the art at the time of the invention to have used the two-way satellite communications of Bradshaw et al. with the USB bus because integrated services require interoperability between transmissions which contribute to improved performance characteristics as well as universal compatibility.

23. Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bradshaw et al. and Dillon et al. as applied to claim 25 above, and further in view of Birdwell et al.

24. With regard to claim 30, Bradshaw et al. does not specifically disclose little and big endian data formats. However, Birdwell et al. discloses endian formats for IP packets transmitted over a satellite link **[paragraph 0058]**. Bradshaw et al. requires the determination of the beginning, the end, the LSB, and/or the MSB of the transmitted data frames in order to process the data frames. Endian formats aid in determining whether the first bytes in the transmitted frames are the LSB or MSB. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to have used the teachings of Bradshaw et al. in processing of transmitted data frames to have used the endian formats to aid in determining the LSB and MSB so that data alignment can be achieved at the receiver for either synchronization or CRC calculations.

25. Claim 31 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bradshaw et al. and Dillon et al. as applied to claim 25 above, and further in view of Jorgenson et al. (USP 6,680,922).

26. With regard to claim 31, Bradshaw et al. does not specifically disclose IGD packets. However, Jorgenson disclosed UDP for transmission of packets over a wireless link **[col. 12, lines 46-48]**. IGD packets are formed from UDP packets. Therefore, it is inherent that UDP datagrams can convey useful information parameters about the wireless link including the return channel ID and loading information. Moreover, UDP/IP packets can encapsulate multiple data types, including IGD packets.

Response to Arguments

27. Applicant's arguments filed November 10, 2004 have been fully considered but they are not persuasive. Applicant has argued that Bradshaw et al. discloses only a single channel return format as well fails to specifically show a burst channel demodulator.

28. As shown for claim 1 above, Bradshaw et al. teaches a multi-layer protocol interface for the hub-to-terminal as the TCP/IP data is encapsulated into a MAC data frame **[col. 7, lines 62-63]** and because the TCP/IP frames are also formatted within the DVB frame **[col. 8, lines 47-51]**. These formats are interpreted as different channel formats. Moreover, satellite communication

inherently includes bursty traffic (such as video) and , therefore, must also inherently include a burst channel demodulator.

29. Applicant further argues that Bradshaw et al. and Gernert et al. are, apparently, non-analogous and, therefore, should not be combined. In response to applicant's argument that Gernert et al. is nonanalogous art, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, as shown for claims 2, 10, and 18 above, Gernert et al. discloses several bus standards for connecting the host **[col. 10, lines 47-48]**. The buses specifically support (common) bursty video traffic. Gernert et al. discloses wireless LAN communications **[Abstract]**. Bradshaw et al. discloses both hardwired and wireless terminals connected to hosts via LAN 116. The can be a standardized bus such as the IEEE 802.6 DQDB for conveying bursty video, which also has the advantage of improved performance characteristics. Moreover, both Bradshaw et al. and Gernert et al. involve integrated services. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to have used the two-way satellite communications of Bradshaw et al. with the LAN bus capable of handling bursty traffic because integrated services require interoperability between receipt and use of regular and bursty transmissions that contribute to improved performance characteristics.

Conclusion

30. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

31. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

32. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark A. Mais whose telephone number is (571) 272-3138. The examiner can normally be reached on 6:00-4:30.

33. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wellington Chin can be reached on (571) 272-3134. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

34. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

July 11, 2005

WELLINGTON CHIN
RVISORY PATENT EXAMINE